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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/726,957	12/03/2003	Toshiyuki Yokoue	JP920020223US1	4384
25299	7590	08/10/2005	EXAMINER	
IBM CORPORATION PO BOX 12195 DEPT YXSA, BLDG 002 RESEARCH TRIANGLE PARK, NC 27709			KIM, RICHARD H	
			ART UNIT	PAPER NUMBER
			2871	

DATE MAILED: 08/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/726,957

Applicant(s)

YOKOUE, TOSHIYUKI

Examiner

Richard H. Kim

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) 7-10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6 is/are rejected.
- 7) ☒ Claim(s) 5 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>8/20/04</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Glownia et al. (US 6,636,290 B1) in view of Ryu et al. (US 2003/0179336 A1).

Referring to claim 1, Glownia et al. discloses a method comprising the steps of applying a liquid crystal to a first substrate (3); and bonding a second substrate to a surface of the first substrate to which the liquid crystal has been applied (col. 6, lines 54-59), wherein a predetermined region of the second substrate is bonded to the first substrate (4). However, the reference does not disclose that the bonded region is expanded with the elapse of time.

Ryu et al. discloses a method wherein the bonded region is expanded with the elapse of time (paragraph 64).

It would have been obvious to one having ordinary skill in the art at the time the invention was made for the bonded region to expand with the elapse of time since thermo-hardening sealants typically expand when heat is applied to them (paragraph 64).

Referring to claim 2, Glownia et al. discloses a method wherein the predetermined region is pressed in the bonding step (Fig. 2).

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3. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Glowonia et al. and Ryu et al., in view of Saito et al. (US 5,455,696).

Glowonia et al. and Ryu et al. disclose the method previously recited, but fails to disclose that the bonding step is carried out in an atmosphere of 2.7k and 50kPA

Saito et al. discloses a bonding step carried out in a reduced atmosphere (col. 8, lines 20-24).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to reduce mechanical strain and to bond with precision (col. 8, lines 22-24). Even though the reference does not state the claimed range of the atmosphere, the reference does teach that it is desirable to lower the atmosphere for the stated benefits. Therefore, determining the optimum range is a result effective variable.

4. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Glowonia et al., Ryu et al. and Saito et al. in view of Murata et al. (US 6,798,488).

Referring to claim 4, Glowonia et al. and Ryu et al. disclose the method previously recited, but fails to disclose fixing the first substrate by a first vacuum chuck; and fixing the second substrate by a second vacuum chuck.

Murata et al. discloses fixing the first substrate by a first vacuum chuck; and fixing the second substrate by a second vacuum chuck (46 and 52).

It would have been obvious to one having ordinary skill in the art at the time the invention was made for fixing the first substrate by a first vacuum chuck; and fixing the second

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substrate by a second vacuum chuck since one would be motivated to securely secure the substrates to the upper and lower plates to improve bonding precision.

Referring to claim 6, Glowonia et al. and Ryu et al. disclose the method previously recited. Glowonia fails to that the second vacuum chuck further comprises a holder that presses the second substrate, and the predetermined region is pressed by the holder in the bonding step.

Murata discloses vacuum chuck further comprising a holder that presses the second substrate, and the predetermined region is pressed by the holder in the bonding step (50).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ a a holder that presses the second substrate, and the predetermined region is pressed by the holder in the bonding step since one would be motivated to control movement of the upper housing relative to the lower surface plate (col. 5, lines 54-55), thereby producing a precise bonding method.

Allowable Subject Matter

5. Claim 5 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The prior art of record does not disclose that the second vacuum chuck comprises a plurality of retaining regions being capable of performing mutually independent retaining operations and being disposed outward from the center of the chuck surface, and the retaining operations of the plurality of retaining regions are stopped in order outward form the center in the bonding step.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard H. Kim whose telephone number is (571)272-2294. The examiner can normally be reached on 9:00-6:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on (571)272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RHK

Richard H Kim
Examiner
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A handwritten signature in black ink, appearing to read 'DUNG T. NGUYEN', with a long horizontal flourish extending to the right.

**DUNG T. NGUYEN
PRIMARY EXAMINER**